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## PAPER

IN

## MANUFACTURES.

FIFTEEN GUINEAS were this Session voted to Mr. ALEX-ANDER DUFF, of Church-Street, Bethnal Green, for an improved Machine for weaving Figured Work.

The following Communication was received from him, and a working Model may be seen in the Society's Repository, with Patterns of the Figured Silk Goods woven by the Macrine.

## GENTLEMEN,

I have sent a model of a machine for your inspection, of which I am the inventor, it is for the purpose of making figure-work in silk goods, or any branch of the weaving business; and though it is not altogether new, I flatter myself that it will be found to be very far superior to any heretofore made use of, as the others have been, generally speaking, not only extremely difficult to be understood, but liable to be very soon put out of order, the constant pressure of the E 2 stomach,

stomach, together with the depth of the tread in the old machines have also rendered the working of them very injurious to the health of the weaver. Now, Gentlemen, my machine is so contrived, that the most common capacity need not ever be at a loss to comprehend it. It is not so liable to go wrong as the old machines; it always keeps the figure in its form, which the others did not, and the weaver can do more work with it in ten hours, than he could with others in twelve, besides the advantage of working with less labour; the back weight of six or seven pounds not being here wanted, the weaver has no occasion to press against his stomach, as one foot balances against the other. It regularly keeps its course without any attention from the workman, and as soon as one figure is finished, it begins of itself the next, whereas the old machines can only work one course, and must then be pulled back. In case the shoot breaks, or the quill runs out, the workman pulls a small cord, and treads back as many shoots as he thinks he is gone wrong; and on pulling another small cord, he goes on with his course as before; but in the old machines it must be set by the workman, and with considerable loss of time. It is not so injurious to the silk or to any other article of manufacture, as it does not break so much, one foot balancing against the other in treading, but the machines before in use, are trod with one foot at a time and have no guard. It is, besides, so constructed that it stands in less room, and is free from all noise in the working, and, moreover, it is less expensive than any yet contrived, the price of those in use being from three to five pounds, whereas mine can be made for two.

I have only, Gentlemen, further to add, that I and my wife are, at this time making figured-work with the machine in question, for Messrs. Douglas, Heron, and Co. No. 46, Bow-Lane, Cheapside; and Messrs. Doxey and Gibson,

No. 19, Friday-Street. My machine may be seen by any person the Society may appoint to examine its merits, and I have the satisfaction of saying, that my employers approve my work.

I beg leave to subjoin a list of those persons who have testified their approbation of my machine, and who will, if requisite, come forward in its support.

I have the honour to be,

Gentlemen,

Your obedient Servant,

ALEX. DUFF.

King's Head, Church-Street, Bethnall Green, Feb. 12, 1806.

To C. TAYLOR, M. D. SEC.

Persons who have testified their Approbation of Mr. Duff's Machine.

P. Obree, Jayson-Street, Bethnall Green.
W. Jones, Vispeney-Row, Bethnall Green.
John Fary, Thorold-Square, Bethnall Green.
John Fary, Jun. ditto.
John Gale, ditto.
Robert Vickers, Church-Street, Mile End.
William Barnett, Broker and Weaver, Club-Row,
Bethnall Green.